NOAA Scientific Publications Report
August 11, 2012 – August 24, 2012

Contents

1. HIGHLIGHTED ARTICLES

1a. **Title:** *Quantifying loss of acoustic communication space for right whales in and around a U.S. National Marine Sanctuary*
Journal: Conservation Biology
Authors: Hatch, L.T. (NOS/SBNMS)**,** Clark, C.W.**, Van Parijs, S.M.** (NMFS/NEFSC), Frankel, A. and D. Ponirakis
Publication Date: August 14, 2012
Summary: The paper reports a method for measuring the cumulative effects of ambient noise on the communication among endangered North Atlantic right whales in the Stellwagen Bank National Marine Sanctuary. The effects of chronic exposure to increasing levels of human-induced underwater noise on marine animal populations reliant on sound for communication are poorly understood. This paper further developed methods for measuring underwater sounds (including whale calls, noise from ships, and wind noise) using temporary, bottom-mounted, or autonomous acoustic recorders. The results suggest that, in comparison to historical noise levels, calling right whales may have lost, on average, 63–67% of their communication space. Additionally, some whales were exposed to excessively high noise levels for varying amounts of time between 10 mins and up to 20% of the month suggesting potential issues with chronic exposure to noise pollution. Researchers conclude that human induced sounds mask calls sounds made by the whales, significantly reducing the distance over which they can hear one another.

Significance: These methods used in this paper for measuring noise can be used to help improve management of cumulative effects of noise on acoustic habitat for marine species.
Press release: Yes. Being prepared by NOS.
Link to full text paper: http://onlinelibrary.wiley.com/doi/10.1111/j.1523-1739.2012.01908.x/pdf

1b. Title: *Monitoring and understanding trends in extreme storms: state of knowledge*
Journal: Bulletin of the American Meteorological Society (BAMS)
Authors: Kunkel, K. (NCDC), Karl, T. (NCDC), Brooks, H. (NSSL), Kossin, J. (NCDC), Lawrimore, J. (NCDC), Arndt, D. (NCDC), Bosart, L. (SUNY - Albany), Chagnon, D. (Northern Illinois University), Cutter, S. (University of South Carolina), Doesken, N. (Colorado State University), Emanuel, K. (MIT)**, Groisman, P.Y. (NCDC),** Katz, R. (NCAR)**, Knutson, T. (GFDL),** O'Brien, J. (Florida State University), Paciorek, C. (UC-Berkeley)**, Peterson, T. (NCDC),** Redmond, K. (Desert Research Institute), Robinson, D. (Rutgers University), Trapp, J. (Purdue University), **Vose, R. (NCDC)**, **Weaver, S. (CPC),** Wehner, M. (Lawrency Berkeley National Laboratory), **Wolter, K. (ESRL),** Wuebbles, D. (University of Illinois)
Publication Date: August 8, 2012
Summary: The state of knowledge regarding trends and an understanding of their causes is presented for severe convective storms, extreme precipitation, hurricanes and typhoons, and severe snowstorms and ice storms. Overall, changes in the frequency of environments favorable for severe thunderstorms have not been statistically significant. For extreme precipitation, there is strong evidence for a nationally-averaged upward trend in the frequency and intensity of events. For hurricanes and typhoons attribution of trends to anthropogenic forcing remains controversial. There are no significant multi-decadal trends in the areal percentage of the contiguous U.S. impacted by extreme seasonal snowfall amounts since 1900. There is no distinguishable trend in the frequency of ice storms for the U.S. as a whole since 1950.
Significance: The paper is meant to present a clear record of what is known and unknown about trends in extreme storms that can be used by meteorological professionals.
Press Release: Yes.

2. ADDITIONAL ARTICLES

Top Tier Journals

None.

Elite Journals

None.

Intermediate-Tier Journals

2a. Title: Economic values for saltwater sport fishing in Alaska: A stated preference analysis
Journal: North American Journal of Fisheries Management
Authors: Lew, D.K. (*NMFS*) and Larson, L.M.
Publication Date: July 27, 2012

Summary: Recreational fishing regulations in Alaska, particularly for Pacific halibut, have been changing in recent years. This paper reports on how recreational saltwater anglers value their catches, and the regulations governing them, of Pacific halibut *Hippoglossus stenolepis*, Chinook salmon *Oncorhynchus tshawytscha*, and coho salmon *O. kisutch* off the coast of Alaska using stated preference choice experiment data from 2007. Data from a stated preference survey show that Alaska resident anglers had mean trip values ranging from US$246 to $444, while nonresidents had much higher values ($2,007 to $2,639), likely reflecting the fact that their trips are both less common and considerably more expensive to take. Nonresidents generally had significant positive values for increases in the number of fish caught, bag limit, and fish size, while Alaska residents valued size and bag limit changes but not catch increases. This paper provides insights into how anglers respond to bag limits and other fishing trip attributes, information that may be used by fisheries managers and analysts in evaluating management measures affecting these marine recreational fisheries

2b. Title: Phylogenetics links monster larva to deep-sea shrimp

Journal: Ecology and Evolution

Authors: Bracken-Grissom, H.D., Felder, D.L., **Vollmer, N.L. (NMFS)**, Martin, J.W., Crandall, K.A.

Publication Date: not yet published.

Summary: Mid-water plankton collections commonly include bizarre and mysterious developmental stages that differ conspicuously from their adult counterparts in morphology and habitat[1]. Unaware of the existence of planktonic larval stages, early zoologists often misidentified these unique morphologies as independent adult lineages[2-5]. Many such mistakes have since been corrected by collecting larvae, raising them in the lab, and identifying the adult forms[4,6]. However, challenges arise when the larva is remarkably rare in nature and relatively inaccessible due to its changing habitats over the course of ontogeny[6]. The midwater marine species *Cerataspis monstrosa* (Gray, 1828) is an armored crustacean larva whose adult identity has remained a mystery for over 180 years. Our phylogenetic analyses, based in part on recent collections from the Gulf of Mexico, provide definitive evidence that the rare, yet widely occurring larva, *C. monstrosa*, is an early developmental stage of the globally distributed deepwater aristeid shrimp, *Plesiopenaeus armatus*. Divergence estimates across 5 genes confirm the larva and adult are the same species. Our work demonstrates the diagnostic power of molecular systematics in instances where larval rearing seldom succeeds and morphology and habitat are not indicative of identity. Larval-adult linkages not only aid in our understanding of biodiversity, they provide insights into the life history, distribution, and ecology of an organism.

3. OTHER REPORTS, BOOK CHAPTERS, AND INTERNAL PUBLICATIONS

None.